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EXAMINER

KAHN, RACHEL

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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

|                              |                                      |  |  |
|------------------------------|--------------------------------------|--|--|
| <b>Office Action Summary</b> | <b>Application No.</b><br>10/584,268 | <b>Applicant(s)</b><br>MARUYAMA ET AL. |  |
|                              | <b>Examiner</b><br>RACHEL KAHN       | <b>Art Unit</b><br>4131                |  |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 31 January 2008.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-6 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-6 is/are rejected.
- 7) ☒ Claim(s) 3, 4, and 6 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date <u>1/31/08, 3/2/07, 6/23/06</u> . | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Claim Objections***

Claims 3, 4 and 6 are objected to because of the following informalities: The claims do not end in a period. Appropriate correction is required.

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1, 3, and 5 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The term "mainly" in claims 1, 3 and 5 is a relative term which renders the claim indefinite. The term "mainly" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention. Clarification requested.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

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(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1 and 2 rejected under 35 U.S.C. 102(b) as being anticipated by Tanaka et al (US 6303741). Tanaka discloses a polyamide resin composition comprising mainly m-xylylenediamine and adipic acid (abstract, examples 1-4, comparative examples 1-4). Tanaka teaches that the disclosed resins contain minimal amounts of gels and fisheyes, thus preventing a rise in pressure due to clogging when filtering (column 11, lines 37-42).

Tanaka et al. are silent on "back pressure increasing coefficient" as calculated by the equation in claims 1 and 2. However, as noted above, the polyamide resin of Tanaka et al. is identical to the presently claimed, and identical resins must have identical properties. Accordingly, the properties of instant claims 1 and 2 are assumed to be inherent to the resins of Tanaka et al. Since the PTO does not have proper means to conduct experiments, the burden of proof is now shifted to applicants to show otherwise. **In re Best**, 562 F. 2d 1252, 195 USPQ 430 (CCPA 1977); **In re Fitzgerald**, 205 USPQ 594 (CCPA 1980).

Claims 1 and 2 are rejected under 35 U.S.C. 102(b) as being anticipated by Furukawa et al (US 3872055).

Furukawa discloses a polyamide resin having decreased gel formation in the molten state (column 1, lines 61-65). Furukawa gives many examples wherein the polyamide resin is comprised of meta-xylylenediamine and adipic acid (example 1, numbers 1-10; example 3, numbers 1-6; example 4, numbers 1-4; example 6, numbers

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1-4; example 7; example 8, numbers 1-23; example 10, numbers 1-21; and example 12).

Furukawa et al. are silent on “back pressure increasing coefficient” as calculated by the equation in claims 1 and 2. However, as noted above, the polyamide resin of Furukawa et al. is identical to the presently claimed, and identical resins must have identical properties. Accordingly, the properties of instant claims 1 and 2 are assumed to be inherent to the resins of Furukawa et al. Since the PTO does not have proper means to conduct experiments, the burden of proof is now shifted to applicants to show otherwise. **In re Best**, 562 F. 2d 1252, 195 USPQ 430 (CCPA 1977); **In re Fitzgerald**, 205 USPQ 594 (CCPA 1980).

Claims 1 and 2 are rejected under 35 U.S.C. 102(b) as being anticipated by Fujimoto et al (US 3536804).

Fujimoto et al disclose polyamide resins comprising mainly meta-xylylenediamine and adipic acid (column 1, lines 49-55) and provides many examples for their preparation (examples 1-8, columns 8-12).

Fujimoto et al. are silent on “back pressure increasing coefficient” as calculated by the equation in claims 1 and 2. However, as noted above, the polyamide resin of Fujimoto et al. is identical to the presently claimed, and identical resins must have identical properties. Accordingly, the properties of instant claims 1 and 2 are assumed to be inherent to the resins of Fujimoto et al. Since the PTO does not have proper

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means to conduct experiments, the burden of proof is now shifted to applicants to show otherwise.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 3 and 4 rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Furukawa et al (US 3872055).

As shown above in the rejection of claims 1 and 2, Furukawa discloses many examples wherein a polyamide resin is comprised of meta-xylylenediamine and adipic acid.

Regarding instant claim 3, Furukawa teaches the addition of 50-1000 (preferably 100-500) ppm by weight, in terms of phosphorous to polyamide (column 4, lines 14-23). Furukawa also teaches the addition of an alkali metal compound (including many sodium containing compounds - column 4, lines 9-11) such that the molar ratio of alkali metal to phosphorous is 1 to 5 (column 4, lines 30-33). The ranges recited in instant claim 3 overlap, and are therefore anticipated by the ranges taught by Furukawa.

Furukawa fails to teach an anticipatory example wherein the amounts of phosphorous and sodium atoms simultaneously satisfy the ranges in the instant claim.

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Therefore, if instant claim 3 is not considered anticipated due to the lack of an anticipatory example, it would have been obvious to one of ordinary skill to optimize the amounts of phosphorous and sodium within the ranges disclosed by Furukawa. In any given composition, the concentrations of the components can be manipulated by a skilled person in the art to optimize properties as a routine experimental practice. One of ordinary skill would be motivated to optimize the conditions to minimize gel formation, thus making industrial processes involving the polymer more efficient (column 1, lines 12-25).

Furukawa et al. are silent on "Co-b value." However, as noted above, the polyamide resin of Furukawa et al. is identical to the presently claimed, and identical resins must have identical properties. Accordingly, the property of instant claim 4 is assumed to be inherent to the resins of Furukawa et al. Since the PTO does not have proper means to conduct experiments, the burden of proof is now shifted to applicants to show otherwise.

Claims 5 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pagilagan (US 6191251) in view of Vandevijver et al (US 5416189).

Pagilagan teaches a polyamide resin having improved color properties (column 1, lines 23 to 30) containing 0.097 to 1.129 ppm phosphorous and 1.785 to 33.325 ppm alkali metal (column 3, lines 51-55 and column 4, lines 6 to 16).

Pagilagan teaches that the polyamide resin can be made from a diamine and a dicarboxylic acid, including adipic acid (column 1, lines 56-60). Pagilagan fails to teach

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polyamide from metaxylylenediamine and adipic acid (herein "MXD6"). Vandevijver teaches that MXD6 is a well known polyamide with many advantageous properties (column 2, lines 4-14). Vandevijver also discloses that MXD6 is prone to yellowing (column 3, line 30 and column 6, lines 1-7).

Given that Pagilagan teaches a process for reducing color in a wide range of polyamides, and in view of the fact that Vandevijver discloses yellowing as a known problem in MXD6 type polyamides, it would have been obvious to one of ordinary skill in the art to use the process taught by Pagilagan to reduce the yellow color of MXD6.

Pagilagan et al. are silent on "Co-b value," as the reference employs a different unit, "YI," in order to gauge color intensity (column 5, lines 57-62). However, as noted above, the polyamide resin of Pagilagan et al. is identical to the presently claimed, and identical resins must have identical properties. Accordingly, the property of instant claim 6 is assumed to be inherent to the resins of Pagilagan et al. Since the PTO does not have proper means to conduct experiments, the burden of proof is now shifted to applicants to show otherwise.

Claims 5 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fujimoto et al (US 3536804).

Fujimoto discloses polyamide resins comprising mainly meta-xylylenediamine and adipic acid (column 1, lines 49-55) as shown above. Fujimoto teaches that hypophosphorous acid metal salts (including sodium and potassium) can be added to the polyamide in amounts of 10-1000 ppm.



Fujimoto fails to teach an anticipatory example wherein the amounts of phosphorous and metal atoms simultaneously satisfy the ranges in the instant claim. Therefore, if instant claim 5 is not considered anticipated due to the lack of an anticipatory example, it would have been obvious to one of ordinary skill to optimize the amounts of phosphorous and metal to 10-30 ppm, as this range is within the range disclosed by Fujimoto. In any given composition, the concentrations of the components can be manipulated by a skilled person in the art to optimize properties as a routine experimental practice. One of ordinary skill would be motivated to optimize the conditions to achieve a desired level of color intensity, given that Fujimoto teaches that whiteness can be controlled by the concentration of the phosphorous/metal compound (example 4, table, column 10).

Fujimoto et al. are silent on "Co-b value," as the reference employs a different unit, "whiteness" in order to gauge color intensity (column 5, lines 57-62). However, as noted above, the polyamide resin of Fujimoto et al. is identical to the presently claimed, and identical resins must have identical properties. Accordingly, the property of instant claim 6 is assumed to be inherent to the resins of Fujimoto et al. Since the PTO does not have proper means to conduct experiments, the burden of proof is now shifted to applicants to show otherwise.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to RACHEL KAHN whose telephone number is (571)270-

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7346. The examiner can normally be reached on Monday to Friday 8:00 am to 5:00 pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Sample can be reached on 571-272-1376. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/RACHEL KAHN/  
Examiner, Art Unit 4131

/David R. Sample/  
Supervisory Patent Examiner, Art Unit 4131

RK